

Chapter 1.



USFWS

Patuxent Research Refuge

The Purpose of, and Need for, Action

- 1.1 Introduction to Patuxent Research Refuge
- 1.2 Purpose of, and Need for, the Proposed Action
- 1.3 Service and Refuge System: Policies and Mandates Guiding Planning
- 1.4 Refuge Establishing Purposes
- 1.5 Conservation Plans and Initiatives Guiding the Proposed Action
- 1.6 The Comprehensive Conservation Planning Process

1.1 Introduction to Patuxent Research Refuge

Patuxent Research Refuge (refuge) was established on December 16, 1936, by Executive Order by President Franklin D. Roosevelt, “To effectuate further the purposes of the Migratory Bird Conservation Act” and “as a wildlife experiment and research refuge.” By order of the President, the area was to be known as the Patuxent Research Refuge. Dedicated on June 3, 1939, Secretary of Agriculture Henry A. Wallace stated that, “The chief purpose of this refuge is to assist in the restoration of wildlife - one of our greatest natural resources.” The Patuxent Research Refuge mission is, “To help protect and conserve the Nation’s wildlife and habitat through research on critical environmental problems and issues.” The original refuge has grown from 2,679 acres in 1936 to 12,841 acres today.

The Patuxent Research Refuge is managed by the U.S. Fish and Wildlife Service (USFWS, the Service, our, we), within the U.S. Department of the Interior (the Department, DOI), as part of the National Wildlife Refuge System (Refuge System). The Refuge System maintains the biological integrity, diversity, and environmental health of these natural resources for the benefit of present and future generations.

Patuxent Research Refuge is unique within the Refuge System by having both a research and wildlife conservation mission and by being collocated with the U.S. Geological Survey (USGS) Patuxent Wildlife Research Center. The Patuxent Wildlife Research Center purpose is to develop the scientific information needed to provide the biological foundation for effective conservation and management of the Nation’s biological resources and to conduct priority research for Department agencies and other Federal and State partners. The Service Division of Migratory Bird Management is also located at Patuxent Research Refuge.

The refuge lies midway in the highly developed and densely populated Baltimore-Washington, DC Corridor and is east of Interstate 95 and the Baltimore-Washington Parkway (Highway 295; see map 1-1). The Patuxent and Little Patuxent Rivers traverse these large forested areas that provide wildlife habitat not available elsewhere in the Maryland Coastal Plain.

This draft comprehensive conservation plan and environmental assessment (draft CCP/EA) for the refuge combines two documents required by Federal law into one document:

- A CCP, required by the National Wildlife Refuge System Administration Act of 1996, as amended by the National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57; 111 Stat. 1253; Improvement Act).
- An EA, required by the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq., 83 Stat. 852; NEPA).

Following the public review of this draft CCP/EA, the Service’s Northeast Regional Director will decide on the components of a final CCP to guide refuge management

decisions over the next 15 years. The Service will use the final CCP to promote the understanding of, and support for, refuge management among State and Federal agencies, our conservation partners, Tribal governments, local communities, and the public.

This draft CCP/EA is organized in several chapters to outline the history, driving mandates and purposes, and conservation priorities guiding the proposed actions, as well as the affected environment of the refuge and alternatives reviewed in the course of plan development.

Chapter 1, “The Purpose of, and Need for, Action,” explains the purpose of, and need for, preparing a CCP and EA, and introduces the five subsequent chapters and seven appendixes.

Chapter 2, “Affected Environment,” describes the biological and socioeconomic landscape context as well as the physical, biological, and human environments of the refuge.

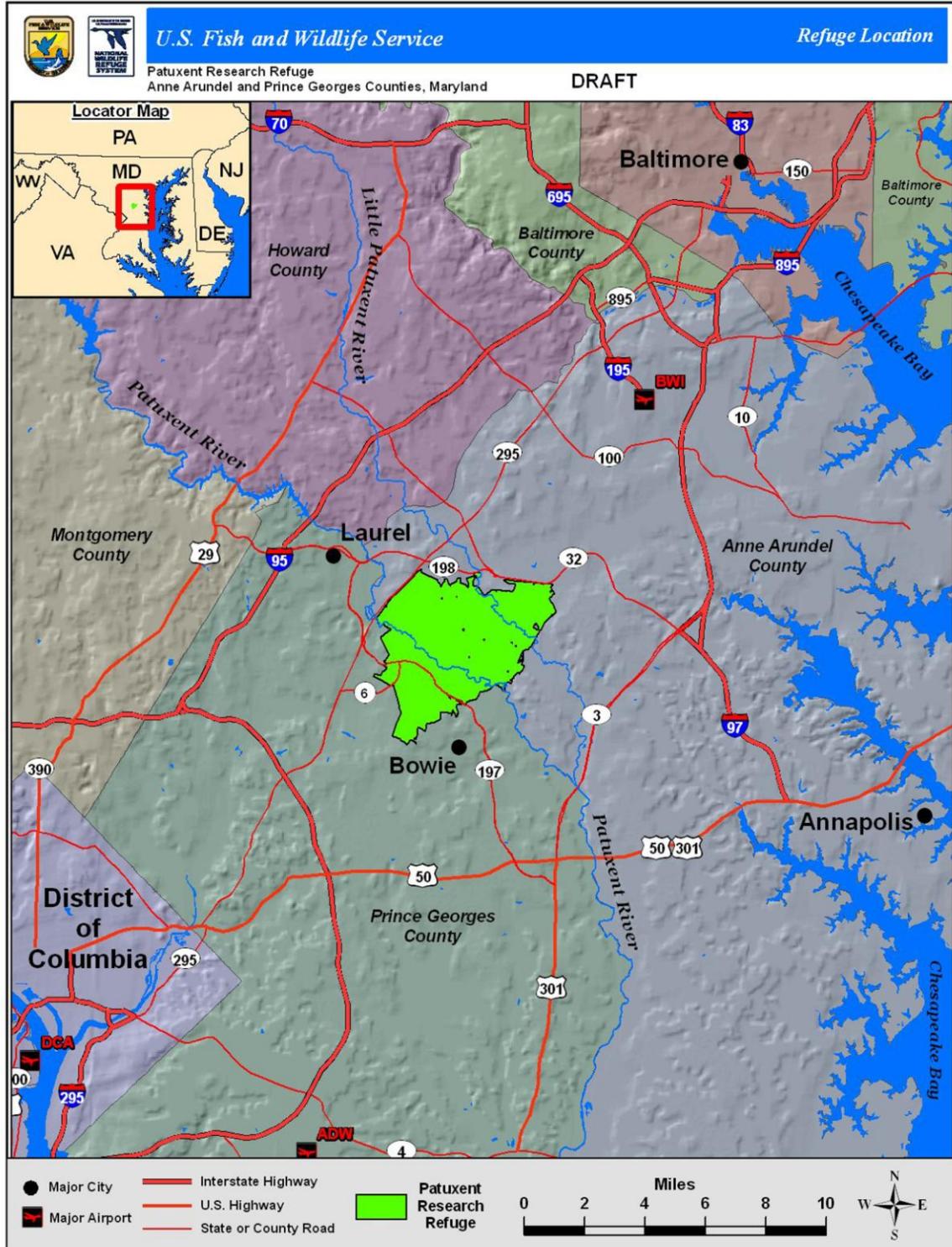
Chapter 3, “Alternatives,” presents three management alternatives and their objectives and strategies for meeting refuge goals and addressing public issues. It also describes the activities that the Service expects to occur regardless of the alternative selected for the final CCP. The range of alternatives analyzed include continuing our present management of the refuge unchanged, expanding restoration of coastal plain habitats found on the refuge, and enhancing habitat management and visitor services with a wider, regional focus.

Chapter 4, “Environmental Consequences,” assesses the environmental effects of implementing each of three management alternatives. It predicts the foreseeable benefits and consequences affecting the socioeconomic, physical, cultural, and biological environments described in chapter 2.

Chapter 5, “Consultation and Coordination with Others,” summarizes how the Service involved the public and our partners in the planning process. Their involvement is vital for the future management of this, and all other, national wildlife refuges. This chapter also includes the list of preparers.

Seven appendixes, a glossary with acronyms, and literature cited section provide additional documentation and references to support our analysis summarized within the report.

Map 1-1. Refuge Location



1.2 Purpose of, and Need for, the Proposed Action

In 1997, Congress passed the National Wildlife Refuge System Improvement Act (Refuge Improvement Act), establishing a unifying mission for the Refuge System. The Refuge Improvement Act highlights six priority public uses that each refuge should evaluate to determine if the uses can be conducted in a manner that is compatible with the purpose of the refuge and the mission of the Refuge System. These six public uses are hunting, fishing, wildlife observation and photography, and environmental education and interpretation. The Refuge Improvement Act requires that all refuges established prior to 1997 prepare a CCP by 2012.

The Service proposes to develop a CCP for the refuge that, in the Service's best professional judgment, best achieves the purposes, vision, and goals of the refuge; contributes to the mission of the Refuge System; adheres to Service policies and other mandates; addresses identified issues of significance; and incorporates sound principles of fish and wildlife science.

NEPA regulations require our evaluation of a reasonable range of alternatives, including a proposed or preferred action and no action. The no action alternative can be either (1) taking no management action, or (2) not changing current management. In this draft plan, alternative A is the latter. All alternatives will be evaluated and compared as to how well they meet the purpose of, and need for, a CCP.

During the planning process, the planning team reviewed existing plans, current management practices, and the landscape context of the refuge to develop the overarching vision and goals for the next 15 years. The *purpose* of adopting a CCP for this refuge is to accomplish the following goals:

Goal 1: Maintain and actively promote Patuxent Research Refuge as an “outdoor laboratory,” providing a diversity of wildlife and natural resource research opportunities on the refuge in such areas as landscape conservation, habitat fragmentation, climate change, and other emerging issues, as well as the more traditional types of wildlife research, including inventory and monitoring techniques, land management, and understanding ecological processes. Research that supports the overall Service mission, and evaluates the best methods for protecting natural resources throughout the Refuge System and other land management agencies will be a priority.

Goal 2: Protect, maintain, and restore, where possible, the biological integrity, diversity, and environmental health of forested ecological communities to provide habitat for species of conservation concern, including migratory birds, mammals, amphibians, reptiles, and invertebrates.

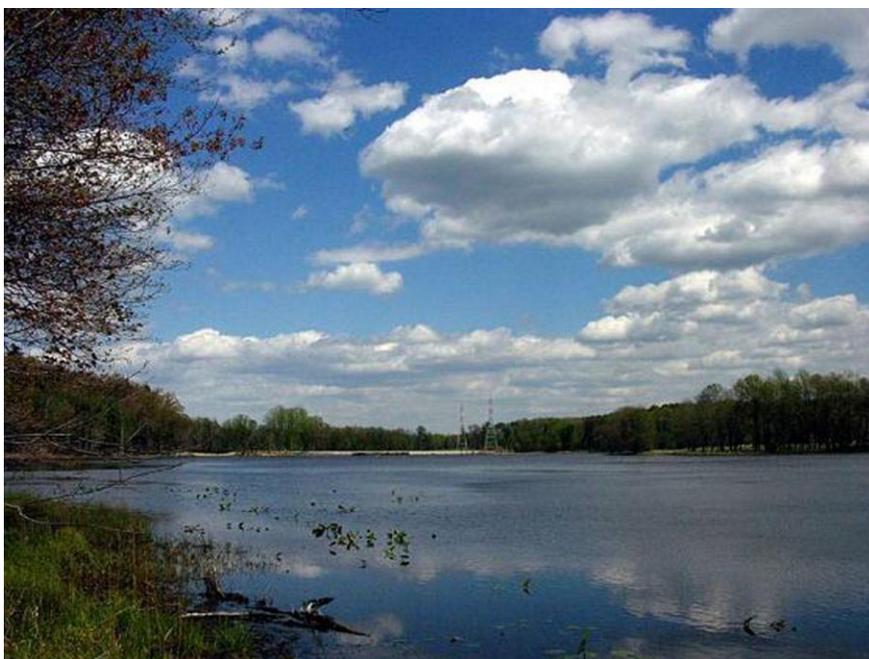
Goal 3: Protect, maintain, and restore, where possible, the biological integrity, diversity, and environmental health of refuge aquatic habitats, located within the Patuxent, Little Patuxent, and Anacostia River watersheds, and impoundments, to provide habitat for species of conservation concern, including fish, invertebrates, and plants.

Goal 4: Manage refuge non-forested upland communities to provide ecological structure, composition, and function to support native plants and wildlife, including species of conservation concern. Where appropriate, restore the biological integrity and diversity of these habitats.

Goal 5: Provide high-quality recreation, environmental education, and interpretive programs to enhance refuge visitors' understanding and appreciation of fish and wildlife conservation.

Goal 6: Provide high-quality hunting and fishing experiences for hunters and anglers.

Goal 7: Enhance partnerships with local communities and various organizations to garner support and promote refuge programs and resources.



Steve Noyes

Cash Lake

Several Service policies that provide specific guidance on implementing the Refuge Improvement Act have been developed since the refuge was established. A CCP incorporates those policies, and develops strategic management direction for the refuge for 15 years, by stating clearly the desired future conditions for refuge habitat, wildlife, visitor services, staffing, and facilities; explaining concisely to State agencies, refuge neighbors, visitors, partners, and other stakeholders the reasons for management actions; ensuring that refuge management conforms to the policies and goals of the Refuge System and legal mandates; ensuring that present and future public uses are appropriate and compatible; providing long-term continuity and consistency in management direction; and justifying budget requests for staffing and operation and maintenance funds.

In addition to the needs for a CCP outlined by Service policies and mandates, Patuxent Research Refuge has not completed a large-scale planning effort, although there have been a number of smaller scale planning efforts for the refuge. This CCP effort will provide a comprehensive approach and view of refuge management that builds upon the previous facilities management planning, transportation management planning, and other smaller scale refuge planning efforts.

Project Area

The project location of our proposed action is the Patuxent Research Refuge, which is located in Anne Arundel and Prince George's Counties in the State of Maryland. The Patuxent and Little Patuxent Rivers flow through the site. The regional context of the project area is defined by the interactions of the Baltimore-Washington Corridor and the Chesapeake Bay (map 1-1). The refuge lies within the Western Shore Uplands Region of the Atlantic Coastal Plain Physiographic Province (MGS 2007).

1.3 Service and Refuge System: Policies and Mandates Guiding Planning

The Service and its Mission

The Service mission is, "Working with others, to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people." Congress entrusts to the Service the conservation and protection of these national natural resources: migratory birds and fish, federally listed endangered or threatened species, inter-jurisdictional fish, wetlands, certain marine mammals, and national wildlife refuges. The Service also enforces Federal wildlife laws and international treaties on importing and exporting wildlife, assists states with their fish and wildlife programs, and helps other countries develop conservation programs.

The Service Manual (USFWS 2010) contains the standing and continuing directives on implementing our authorities, responsibilities, and activities. The Service publishes special directives that affect the rights of citizens or the authorities of other agencies separately in the Code of Federal Regulations (CFR); the Service Manual does not duplicate them (see 50 CFR 1-99 at: <http://www.gpoaccess.gov/cfr/index.html>; accessed March 2012).

The National Wildlife Refuge System and its Mission and Policies

The Refuge System, administered by the Service, is the world's largest collection of lands and waters set aside specifically for the conservation of wildlife and the protection of ecosystems. More than 550 national wildlife refuges encompass more than 100 million acres of lands and waters in all 50 States and several island territories. Each year, more than 40 million visitors hunt, fish, observe and photograph wildlife, or participate in environmental education and interpretation on refuges (USFWS 2007).

The Refuge Improvement Act states that the Refuge System must focus on wildlife conservation first. It also states that the mission of the Refuge System, coupled with the purpose(s) for which each refuge was established, will provide the principal management

direction on that refuge. The mission of the Refuge System is, “To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Improvement Act; P.L. 105–57).

The National Wildlife Refuge System Manual (Refuge Manual) contains policy governing the operation and management of the Refuge System that the Service Manual does not cover, including technical information on implementing refuge policies and guidelines on enforcing laws. The Refuge Manual may be accessed at refuge headquarters or online. Policies instrumental in developing this draft CCP/EA are summarized below.

Policy on the National Wildlife Refuge System Mission, Goals, and Purposes

This policy (601 FW 1) sets forth the Refuge System mission noted above, how it relates to the Service mission, and explains the relationship of the Refuge System mission and the goals and purpose(s) of each unit in the Refuge System. In addition, it identifies the following Refuge System goals:

- Conserve a diversity of fish, wildlife, and plants.
- Develop and maintain a network of habitats.
- Conserve those ecosystems, plant communities, and wetlands that are unique within the United States (U.S.).
- Provide and enhance opportunities to participate in compatible, wildlife-dependent recreation.
- Help to foster public understanding and appreciation of the diversity of fish, wildlife, and plants and their habitats.

This policy also establishes management priorities for the Refuge System:

- Conserve fish, wildlife, and plants and their habitats.
- Facilitate compatible wildlife-dependent recreational uses.
- Consider other appropriate and compatible uses.

Policy on Refuge System Planning

This policy (602 FW 1, 2, 3) establishes the requirements and guidance for Refuge System planning, including CCPs and step-down management plans. It states that the Service will manage all refuges in accordance with an approved CCP that, when implemented, will help:

- Achieve refuge purposes.
- Fulfill the Refuge System mission.

- Maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System.
- Achieve the goals of the National Wilderness Preservation System and the National Wild and Scenic Rivers System.
- Conform to other applicable laws, mandates, and policies.

That planning policy provides step-by-step directions and identifies the minimum requirements for developing all CCPs. Among them, the Service is to review any existing special designation areas such as wilderness and wild and scenic rivers, specifically address the potential for any new special designations, conduct a wilderness review, and incorporate a summary of that review into each CCP (602 FW 3).

Policy on the Appropriateness of Refuge Uses

Federal law and Service policy provide the direction and planning framework for protecting the Refuge System from inappropriate, incompatible, or harmful human activities and ensuring that visitors can enjoy its lands and waters. This policy (603 FW 1) provides a national framework for determining appropriate refuge uses to prevent or eliminate those that should not occur in the Refuge System. It describes the initial decision process the refuge manager follows when first considering whether to allow a proposed use on a refuge. An appropriate use must meet at least one of the following four conditions:

- The use is a wildlife-dependent recreational use as identified in the Refuge Improvement Act.
- The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or objectives described in a refuge management plan approved after October 9, 1997, the date the Refuge Improvement Act became law.
- The use follows State regulations for the take of fish and wildlife.
- The use has been found to be appropriate after concluding a specified findings process using 10 criteria.

This policy can be viewed at: <http://www.fws.gov/policy/603fw1.html>; accessed March 2012.

Policy on Compatibility

This policy (603 FW 2) complements the appropriateness policy. Once a refuge manager finds a use appropriate, they conduct further evaluation through a compatibility determination assessment. The direction in 603 FW 2 provides guidelines for determining compatibility of uses and procedures for documentation and periodic review of existing uses. Highlights of the guidance in that chapter follow:

- The Refuge Improvement Act and its regulations require an affirmative finding by the refuge manager on the compatibility of a public use before the Service allows the use on a refuge.

- A compatible use is one, “That will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge.”
- The act defines six wildlife-dependent uses that are to receive enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, and environmental education and interpretation.
- The refuge manager may authorize those priority uses on a refuge when they are compatible and consistent with public safety.
- When the refuge manager publishes a compatibility determination, it will stipulate the required maximum reevaluation dates: 15 years for wildlife-dependent recreational uses or 10 years for other uses.
- The refuge manager may reevaluate the compatibility of a use at any time: for example, sooner than its mandatory date, or even before the Service completes the CCP process, if new information reveals unacceptable impacts or incompatibility with refuge purposes (603 FW 2.11, 2.12).
- The refuge manager may allow or deny any use, even one that is compatible, based on other considerations such as public safety, policy, or available funding.



USFWS

Dog Walking on the Refuge

Policy on Wildlife-dependent Public Uses

Part 605 chapter 1 of the Service manual presents specific guidance on implementing management of the priority public uses, including the following criteria for a quality, wildlife-dependent recreation program that:

- Promotes safety of participants, other visitors, and facilities.
- Promotes compliance with applicable laws and regulations and responsible behavior.

- Minimizes or eliminates conflict with fish and wildlife population or habitat goals or objectives in an approved plan.
- Minimizes or eliminates conflicts with other compatible wildlife-dependent recreation.
- Minimizes conflicts with neighboring landowners.
- Promotes accessibility and availability to a broad spectrum of the American people.
- Promotes resource stewardship and conservation.
- Promotes public understanding and increases public appreciation of America's natural resources and our role in managing and conserving these resources.
- Provides reliable and reasonable opportunities to experience wildlife.
- Uses facilities that are accessible to people and blend into the natural setting.
- Uses visitor satisfaction to help to define and evaluate programs.

Policy on Maintaining Biological Integrity, Diversity, and Environmental Health

This policy (601 FW 3) provides guidance on maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge System, including the protection of a broad spectrum of fish, wildlife, and habitat resources in refuge ecosystems. It provides refuge managers with a process for evaluating the best management direction to prevent the additional degradation of environmental conditions and restore lost or severely degraded components of the environment. It also provides guidelines for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem.

Other Mandates

Although Service and Refuge System policy and the purpose(s) of each refuge provide the foundation for its management, other Federal laws, executive orders, treaties, interstate compacts, and regulations on conserving and protecting natural and cultural resources affect how the Service manages refuges. The "Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service" describes many of them at <http://www.fws.gov/laws/Lawsdigest.html>; accessed March 2012.

Of particular note are the Federal laws that require the Service to identify and preserve its important historic structures, archaeological sites, and artifacts. NEPA mandates our consideration of cultural resources in planning Federal actions. The Refuge Improvement Act requires the CCP for each refuge to identify its archaeological and cultural values. The following highlights some cultural and historic resource protection laws that relate to the development of CCPs.

The Archaeological Resources Protection Act (16 U.S.C. 470aa–470ll; P.L. 96–95) approved October 31, 1979 (93 Stat. 721), largely supplanted the resource protection provisions of the Antiquities Act of 1906 for archaeological items. The act establishes

detailed requirements for issuance of permits for any excavation for, or removal of, archaeological resources from Federal or Native American lands. It also establishes civil and criminal penalties for the unauthorized excavation, removal, or damage of those resources; for any trafficking in those resources removed from Federal or Native American land in violation of any provision of Federal law; and for interstate and foreign commerce in such resources acquired, transported, or received in violation of any state or local law.

The Archaeological and Historic Preservation Act (16 U.S.C. 469–469c; P.L. 86–523) approved June 27, 1960 (74 Stat. 220), as amended by P.L. 93–291, approved May 24, 1974 (88 Stat. 174), carries out the policy established by the Historic Sites Act (see below). It directs Federal agencies to notify the Secretary of the Interior whenever they find that a Federal or federally assisted, licensed, or permitted project may cause the loss or destruction of significant scientific, prehistoric, or archaeological data. The act authorizes the use of appropriated, donated, or transferred funds for the recovery, protection, and preservation of that data.

The Historic Sites, Buildings, and Antiquities Act (16 U.S.C. 461–462, 464–467; 49 Stat. 666) of August 21, 1935, commonly known as the Historic Sites Act, as amended by P.L. 89–249, approved October 9, 1965 (79 Stat. 971), declares it a national policy to preserve historic sites and objects of national significance, including those located on refuges. It provides procedures for designating, acquiring, administering and protecting them. Among other things, National Historic and Natural Landmarks are designated under the authority of this act.

The National Historic Preservation Act of 1966 (16 U.S.C. 470–470b, 470c–470n), P.L. 89–665, approved October 15, 1966 (80 Stat. 915), and repeatedly amended, provides for the preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to the states. It establishes a National Register of Historic Places and a program of matching grants under the existing National Trust for Historic Preservation (16 U.S.C. 468–468d). This act establishes an Advisory Council on Historic Preservation, which became a permanent, independent agency in P.L. 94–422, approved September 28, 1976 (90 Stat. 1319). The act created the Historic Preservation Fund. It directs Federal agencies to take into account the effects of their actions on items or sites listed or eligible for listing on the National Register.



Old Duvall Bridge Sign

The Service also has a mandate to care for museum properties it owns in the public trust. The most common are archaeological, zoological or botanical collections, historical photographs, historic objects, and art. Each refuge maintains an inventory of its museum property. The Service's Northeast Region museum property coordinator in Hadley, Massachusetts, guides the refuges in caring for that property, and helps us comply with the Native American Grave Protection and Repatriation Act and Federal regulations governing Federal archaeological collections. This program ensures that those collections will remain available to the public for learning and research.

Other Federal resource laws are also important to highlight as they are integral to developing a CCP. The Wilderness Act of 1964 (16 U.S.C. 1131–1136; P.L. 88–577) establishes a National Wilderness Preservation System (NWPS) that is composed of federally owned areas designated by Congress as “wilderness areas.” The act directs each agency administering designated wilderness to preserve the wilderness character of areas within the NWPS, and to administer the NWPS for the use and enjoyment of the American people in a way that will leave those areas unimpaired for future use and enjoyment as wilderness. The act also directed the Secretary of the Interior to review every roadless area of 5,000 acres or more and every roadless island (regardless of size) within National Wildlife Refuge and National Park Systems for inclusion in the NWPS. Service planning policy requires that the Service evaluate the potential for wilderness on refuge lands, as appropriate, during the CCP planning process.

The Wild and Scenic Rivers Act of 1968, as amended, selects certain rivers of the Nation possessing remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, preserves them in a free-flowing condition, and protects their local environments. Service planning policy requires that the Service evaluate the potential for wild and scenic rivers designation on refuge lands, as appropriate, during the CCP planning process.

The Coastal Zone Management Act of 1972, as amended, and National Oceanic and Atmospheric Administration (NOAA) regulations (15 CFR part 930) require that Federal actions which are reasonably likely to affect any land or water use, or natural resource of a state's coastal zone be conducted in a manner that is consistent with a state's federally approved Coastal Zone Management Program. During the draft CCP review period, we will be submitting the necessary documentation and application to the Maryland Department of Natural Resources.

On May 12, 2009, President Barack Obama signed the Executive Order (EO) 13508 regarding the Chesapeake Bay Protection and Restoration. The EO declared the bay as a national treasure and required a renewed commitment from Federal agencies to protect and restore the health, heritage, natural resources, and social and economic value of the Nation's largest estuarine ecosystem and the natural sustainability of its watershed. EO 13508 requires the Department to work with other Federal agencies to expand public access to the bay and its rivers from Federal lands, and to conserve landscapes of the watershed.

Chapter 4, “Environmental Consequences,” evaluates this plan’s compliance with the acts noted above, and with the Federal Water Pollution Control Act (Clean Water Act) of 1972 as amended (33 U.S.C. 1251, et seq.; P.L. 92-500), the Clean Air Act of 1970 as amended (42 U.S.C. 7401 et seq.), and the Endangered Species Act of 1973 (16 U.S.C. 1531–1544), as amended. Finally, the Service designed this draft CCP/EA to comply with NEPA and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500–1508).

1.4 Refuge Establishing Purposes

Patuxent Research Refuge was established by Executive Order in 1936, “To effectuate further the purposes of the Migratory Bird Conservation Act” and “as a wildlife experiment and research refuge.” The Migratory Bird Conservation Act of 1929, 16 U.S.C. 715-715S, was passed to more effectively meet the U.S. migratory bird treaty obligations through the acquisition of land and water for perpetual reservation for birds.

The refuge initially served as a “companion site” to the existing National Agricultural Research Center, which was studying ways to minimize wildlife-related damage to agricultural crops. Patuxent Research Refuge, conversely, was established to explore how wildlife and agriculture could co-exist, to develop wildlife-friendly agricultural practices, and to return marginal cropland back to wildlife habitat. Upon Patuxent Research Refuge’s dedication in 1939, while still under ownership by the Department of Agriculture, Secretary Henry Wallace said, “The chief purpose of this refuge is to assist in the restoration of wildlife – one of our greatest natural resources.”

1.5 Conservation Plans and Initiatives Guiding the Proposed Action

Important guidance for habitat management and visitor service management at the refuge has already been provided by a series of national, regional, State, and refuge-specific plans and their priorities.

National, Regional, and State Plans

Saving Our Shared Birds, Partners in Flight Tri-national Vision for Landbird

Conservation

Saving Our Shared Birds presents, for the first time, a comprehensive conservation assessment of landbirds in Canada, Mexico, and the continental U.S. This tri-national vision encompasses the complete range of many migratory species and highlights the vital links among migrants and highly threatened resident species in Mexico. It points to a set of continent-scale actions necessary to maintain landbird diversity and abundance. This collaborative effort of Partners in Flight (PIF) is the next step in linking the countries of the Western Hemisphere to help species at risk and keep common birds common through voluntary partnerships.

North Atlantic Landscape Conservation Cooperative Operations Plan

The Service is developing a coordinated network of Landscape Conservation Cooperatives (LCCs) across the U.S., in part to address major environmental and human-related factors that limit fish and wildlife populations at the broadest of scales, including developing adaptation strategies in response to climate change. The refuge is located within the North Atlantic LCC. The LCC is using principles of strategic habitat conservation to develop and communicate landscape-scale scientific information to shape conservation across the northeastern U.S. The LCC operations plan (USFWS 2010) outlines the regional threats to conservation, priority species and habitats, as well as active regional partnerships.

The LCC recently completed a year-long effort to identify representative species with support from the University of Massachusetts-Amherst and the U.S. Forest Service. The process included the development of species-habitat databases, cluster and indicator species analyses to group species based on habitat systems and use, and application of filtering criteria. Species experts provided extensive input throughout the process including selecting representative species during three workshops held in May and June 2011.

Mid-Atlantic Coast Bird Conservation Region Implementation Plan (Steinkamp 2008)

The implementation plan for the New England/Mid-Atlantic Bird Conservation Region (BCR 30) identifies the bird species and habitats in greatest need of conservation action in this region and combines regional plans, assessments, and research completed over the past two decades to develop bird conservation efforts. Patuxent Research Refuge is located in BCR 30. Many of the BCR 30 priority species are also species of greatest conservation need within the Maryland Wildlife Diversity Conservation Plan. This plan considers the rankings and the recommendations contained within the BCR plan. The implementation plan can be accessed at:

http://www.acjv.org/BCR_30/BCR30_June_23_2008_final.pdf; accessed November 2011).

Partners-in-Flight Bird Conservation Plan for the Mid-Atlantic Coastal Plain (April 1999)

PIF is a partnership of government agencies, non-governmental organizations, academic researchers, and private industry throughout North America dedicated to reversing the population declines of bird species and “keeping common birds common.” The foundation of its long-term strategy is a series of scientifically based bird conservation plans using physiographic areas as planning units.

Patuxent Research Refuge is located within PIF Physiographic Area 44, the Mid-Atlantic Coastal Plain. Many of the priority species for this physiographic area are also priority species of BCR 30 and Maryland species of greatest conservation need. The PIF Bird Conservation Plan for the Mid-Atlantic Coastal Plain can be accessed at:

http://www.blm.gov/wildlife/plan/pl_44_10.pdf; accessed November 2011.

The PIF plan includes population objectives for the following habitat types and associated species of conservation concern on the refuge:

- Forested Wetland Species: Kentucky warbler, Acadian flycatcher, yellow-throated vireo, prothonotary warbler, and Louisiana waterthrush.

Objectives - Maintain a population of 40,000 prothonotary warblers and a population of 300,000 Acadian flycatchers.

- Mixed Upland Forest Species: cerulean warbler, wood thrush, Kentucky warbler, Acadian flycatcher, worm-eating warbler, eastern wood-pewee, and Louisiana waterthrush.

Objectives - Maintain enough upland forest to support a population of 800,000 wood thrushes.

- Early Successional Species: prairie warbler, grasshopper sparrows, and white-eyed vireo.

Objectives - Maintain enough open grasslands to support 100,000 pairs of grasshopper sparrows, and shift the management of open lands less than 10 hectares in size from high-intensity grassland management to low-intensity shrubland management.



Kentucky warbler

Scott Somerstone/USGS

National Audubon Society Important Bird Areas Program

The Important Bird Areas (IBA) Program is an international bird conservation initiative for identification and conservation of the most important places for birds. The program is overseen by a technical review committee representing state and Federal agencies, academic ornithologists, the birding community, and regional biologists. IBA links global and continental bird conservation priorities to local sites providing critical habitat for native bird populations. The Maryland-Washington, DC IBA Program began in 2005 and has identified more than 40 IBAs, including Patuxent Research Refuge. The refuge is noted for supporting one of the most diverse communities of forest-interior dwelling bird species on Maryland's Coastal Plain, and the largest population of eastern whip-poor-will in central Maryland.

USFWS Migratory Bird Program Strategic Plan

The Migratory Bird Program Strategic Plan provides direction for the Service's migratory bird management from 2004 through 2014. The plan contains a vision and recommendations for the Refuge System's place in bird conservation. Strategies are defined for the Service, including the Refuge System, to actively support bird conservation through monitoring, conservation, consultation, and recreation. The habitat management plan, to the extent practical, will use standard monitoring protocols, habitat assessment and management, and promote nature-based recreation and education to forward the vision of the Migratory Bird Program Strategic Plan.

USFWS Birds of Conservation Concern (USFWS 2008)

This report identifies the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the Service's highest conservation priorities and draws attention to species in need of conservation action. The geographic scope includes the U.S. in its entirety, including island territories in the Pacific and Caribbean. Bird species considered for inclusion on lists in this report include nongame birds, gamebirds without hunting seasons, subsistence-hunted nongame birds in Alaska; and Endangered Species Act candidates (proposed endangered or threatened), and recently delisted species. Assessment scores are based on several factors, including population trends, threats, distribution, abundance, and area importance.

Maryland Wildlife Diversity Conservation Plan

Congress established a State Wildlife Grants program in 2001 to provide funds to state wildlife agencies for the conservation of fish and wildlife and their habitats. Each state was charged with developing a comprehensive wildlife conservation plan or strategy by October 2005. State fish and wildlife agencies identified species and habitats in the greatest need of conservation while also addressing the full array of wildlife.

The Maryland Wildlife Diversity Conservation Plan was completed in 2005 and provides a Statewide perspective, including all of Maryland's wildlife diversity and habitats, in a comprehensive approach to long-term wildlife and habitat conservation in the State. The plan identifies 502 species of greatest conservation need in Maryland.

Refuge-specific Plans

A number of other refuge program-specific plans have been consulted in either their draft or final format to help guide development of CCP alternatives. These plans will also be maintained and updated as necessary consistent with the recommendations of the CCP.

Patuxent Research Refuge Draft Habitat Management Plan

The habitat management plan will be completed based upon the goals and objectives presented in the CCP. The habitat management plan will provide specific guidance on managing the habitats for the identified resources of concern at the Patuxent Research Refuge. The plan provides direction for the next 15 years. Subsequent reviews every 5 years and use of adaptive management will assess and modify management activities as research, monitoring, and priorities require.

Visitor Service Review (Russo et al. 2009)

A Service-based review team assessed the public use issues, opportunities, and facilities available at Patuxent Research Refuge in preparation for the refuge's CCP and to develop recommendations to improve the quality of the refuge's visitor services program. The visitor services review recommendations can be used to help develop goals, objectives, and strategies for refuge visitor services planning.

Patuxent Research Refuge Facilities Modernization Program

The facilities modernization program describes infrastructure and building improvements and construction associated with the USGS Patuxent Wildlife Research Center, the

Service Division of Migratory Bird Management, and the refuge. The facilities modernization plan includes construction of an administrative building for the Service Headquarters Division of Migratory Bird Management on the Central Tract, renovation/stabilization of four buildings (Merriam Lab, Merriam Garage, Nelson Lab, and Snowden Hall) on the Central Tract, and correction of critical deferred maintenance and building code deficiencies. The Service and USGS completed an EA, which led to a Finding of No Significant Impact, in support of the program.

Patuxent Fire Management Plan

The fire management plan was completed in 2008 and governs both response to wildfire and use of prescribed fire. The history of fire on the refuge, fuels reduction information, and smoke management are included in the plan.



USFWS

Prescribed Fire on the Refuge

Step-down Plans

The Service Manual, Part 602, Chapter 4 “Refuge Planning Policy,” identifies more than 25 step-down management plans that generally are required on refuges. Those plans provide the details necessary to “step-down” general goals and objectives to specific strategies and implementation schedules. Some require annual revisions; others are revised on a 5- to 10-year schedule. Some require additional NEPA analysis, public involvement, and compatibility determinations before they can be implemented.

A number of refuge step-down plans have provided guidance either in their draft or final format, including but not limited to:

- Annual habitat work plan
- Exotic species introduction and management plan

- Grassland prescribed fire plan
- Headquarters mowing plan
- Meadow management, growing season mowing plan
- Savannah prescribed fire plan
- Winter mowing plan
- Impoundment management plan
- Powerline right-of-way vegetation management plan
- North Tract hunting management plan
- Public use management plan
- Fire management plan
- Endangered species plan
- Fisheries resource plan
- Trapping plan
- Waterfowl plan
- Wildlife inventory management plan

Refuge Vision

The planning team developed the following vision statement to provide a guiding philosophy and sense of purpose in the CCP.

Positioned near the center of the Baltimore-Washington Corridor, Patuxent Research Refuge is an island of green within a sea of urban development. This large, contiguous block of forest and wetlands provides a unique opportunity for wildlife research on a landscape and local scale in a natural setting. The refuge and our partners interpret the results of research for the visiting public as a way of connecting people with the natural world. As the first national wildlife refuge established for both wildlife and research, and the home of the U.S. Geological Survey's Patuxent Wildlife Research Center, staff and partners are able to conduct cutting-edge wildlife research and passionate interpretation of the natural world in the shadows of protected historic and cultural resources. The North Tract and the National Wildlife Visitor Center provide opportunities for local children, national decision-makers, and the general public from around the world to develop a conservation ethic and learn about the refuge, the National Wildlife Refuge System, and the importance of science and the benefits that green spaces provide to wildlife and people. Patuxent Research Refuge fosters a sense of connection to natural resources for visitors, researchers, and decision-makers while providing a natural corridor for species that migrate naturally or that may need to move in response to future climatic changes. Pieced together from a variety of past uses and owners, this important component of the green infrastructure of the mid-Atlantic provides improved air and water quality for the surrounding area, connects people with the natural world, and allows for conservation at a landscape scale.

1.6 The Comprehensive Conservation Planning Process

Service policy (602 FW 3) establishes an eight-step planning process that also facilitates compliance with NEPA. The full text of the policy and a detailed description of the planning steps can be viewed at: <http://policy.fws.gov/602fw3.html>; accessed March 2012. The specific process implemented by Patuxent Research Refuge's planning team in developing this draft CCP/EA is described below.

The process seeking public involvement officially began in February 2010 with the submission of the Notice of Intent to the *Federal Register* and delivery of scoping invitations to agency partners. The Notice of Intent was published on Tuesday, March 16, 2010 (Vol. 75, No. 50).

The agency scoping meeting was held on February 23, 2010, from 1 to 3 p.m. at the Maryland Department of Natural Resources office in Annapolis. The meeting was held in a workshop-style format with brief presentations on the CCP process and refuge status, displays of the refuge context, habitat management units, visitor services and facilities, and handouts on the draft vision and goals.

In February, the planning team distributed a newsletter to individuals, organizations, and agencies announcing the planning process and asking people if they wanted to remain on our mailing list. Planning team membership is included in chapter 5.

Scoping activities in February also included public scoping meetings, which were held at the Visitor Center on February 22, 2010, from 2 to 4 p.m. and from 6:30 to 8:30 p.m. The meetings were held in an open house format with brief presentations on the CCP process and refuge status, and included a period for questions and answers, as well as informal discussion, to identify issues and concerns. The planning team provided displays of the refuge context, habitat management units, visitor services and facilities, the past and planned marsh restoration projects, and handouts on the draft vision and goals. The comment period for public scoping ended on March 31, 2010.

A second newsletter was developed by the planning team to inform interested individuals, organizations, and agencies about the range of issues identified throughout the scoping process.

Planning team meetings were held at various intervals through the planning process to work through the draft vision, goals, objectives, strategies, and alternatives for refuge management. Often the meetings focused on specific topics. For example, meetings were held specific to habitat management, land protection, public use management, and grasslands.

The planning team entered into a structured decision-making process to evaluate management of impoundments on Patuxent Research Refuge. The initial meeting for structured decision-making was held in December 2010. Fourteen participants with expertise in impoundment and refuge management contributed to the first meeting, which

consisted of developing lists of primary objectives for impoundment management, factors that influence impoundment decisions (such as waterfowl use, forest fragmentation, biological integrity, and fish populations), invertebrate use, and research and data needs. During subsequent meetings, the team was able to narrow the list of key factors that would differ across impoundments and costs of management decisions. The structured decision-making process included a minimum of one to two meetings per month from December 2010 through August 2011. The impoundment alternatives presented in this CCP represent the culmination of those efforts.

The draft CCP/EA has been made available for a 45-day comment period. We will review all of the comments that we receive and respond to any substantive comments. The final CCP will be developed based upon the draft CCP and any necessary changes.

Issues, Concerns, and Opportunities

The Service defines an issue as, “Any unsettled matter requiring a management decision” (USFWS 2010). Issues can include an “initiative, opportunity, resource management problem, threat to a resource, conflict in use, or a public concern.” Issues arise from many sources, including refuge staff, other Service programs, State agencies, other Federal agencies, our partners, neighbors, user groups, or Congress. One of the distinctions among the proposed management alternatives is how each addresses those issues.

From public meeting and planning team discussions, we developed a list of issues, concerns, opportunities, and other items requiring a management decision. We placed them in three categories: key issues, issues outside the scope of this analysis and the EA, and issues considered and not included in alternatives analysis.

Key issues - Key issues are those the Service has the jurisdiction and authority to resolve. The key issues, together with refuge goals, form the basis for developing and comparing the different management alternatives we analyze in chapter 3. The varying alternatives were generated by the wide-ranging opinions on how to address key issues and conform to the goals and objectives. We describe them in detail below.

Issues and concerns outside the scope of this analysis - These topics fall outside the jurisdiction and authority of the Service or were deemed impractical. We discuss them after “Key Issues,” below, but this plan does not address them further.

Issues considered and not included in alternatives analysis - These topics were considered by the planning team and reviewed for inclusion in one of our alternatives. Ultimately, we determined that these issues should not be included. We outline our reason to not including them below.

The following summary provides a context for the issues that arose during the scoping process.

Key Issues

We derived the following key issues from public and partner meetings and further team discussions. How they are addressed and how well they support refuge goals primarily distinguishes the three management alternatives in chapter 3.

Biological Program

- Evaluate reforesting areas of the refuge.
- Better understand implications and trade-offs of habitat management on refuge wildlife.
- Identify/address climate change concerns impacting the refuge.

Public Use

- Expand use of the National Wildlife Visitor Center and raise visibility of the Service and Refuge System as a whole.
- Consider extending refuge hours for public access.
- Seek out balance between public use and biology/wildlife.
- Maintain horseback riding as a public use opportunity on North Tract.
- Improve public access to North Tract by increasing parking areas.
- Accommodate other public uses at North Tract during hunting season.
- Consider charging a user fee and/or permit fee to help fund trail projects, etc.
- Complete Wildlife Loop to provide user access to entire loop, and consider various grades of access (auto, horse, bike, or hiker only, or a combination).



Hiking on the Refuge – USFWS

Cultural Resources

- Inventory historic resources on refuge and provide public access to these resources, and highlight historical significance of refuge.

Partnerships and Outreach

- Continue working with local and State organizations in enhancing outreach and funding opportunities in support of refuge mission and goals.
- Develop new partnerships to support refuge mission and goals.
- Meet with other Federal land managers in area to identify issues/opportunities.

Issues and Concerns Outside the Scope of this Analysis

We derived the following concerns and issues from public and partner meetings and further team discussions. The topics listed below will be addressed as a part of a separate planning process to determine if the boundary of the refuge should be expanded and, if so, what the extent should be. A separate land protection plan will be developed through a public process. The plan is discussed generally in this CCP; however, the land protection plan will require a separate environmental analysis.

Ecosystemwide Concerns

- Work with partners to evaluate land protection needs throughout the Patuxent River watershed.
- Consider adding lands to the approved refuge acquisition boundary for conservation purposes.
- Consider easement programs and private lands coordination as additional options.
- Maintain corridor concept when considering additional land protection.

Issues Considered and not Included in Alternatives Analysis

Elimination of Hunting Programs

The planning team reviewed the hunting programs on the refuge and determined that most of the existing hunting programs were effective in maintaining healthy wildlife populations, healthy forest ecosystems, and providing quality public hunting opportunities. Hunting opportunities in the area are limited, so eliminating all hunting opportunities on the refuge would have a detrimental impact on the health of the deer population in the area, habitats, and the public that participates in hunting. We have included minor changes to the hunting programs in each of the alternatives.

Non-motorized Boating Access to the Patuxent and Little Patuxent Rivers

We do not provide access across refuge lands to the Patuxent and Little Patuxent Rivers. A number of individuals requested canoe/kayak access to these rivers. While portions of each of the rivers may be considered navigable, we have not included river access in any of the alternatives. We are concerned about the potential for unexploded ordnance and the impact zone of the shooting ranges for the Little Patuxent River and possible impacts to the endangered species facilities adjacent to the Patuxent River. Also, the Patuxent River is almost entirely located within closed areas and access provisions would pass through the Patuxent Wildlife Research Center, which is also closed to the public.

Orienteering

During scoping and in response to our newsletter about alternatives, we received requests to allow orienteering on the refuge. Traditionally, orienteering takes place off-trail. We have not included these off-trail activities because we are concerned about year-round access to closed areas, safety associated with unexploded ordnance issues, and impacts to wildlife species, including disturbance. We have included virtual geocaching and letterboxing opportunities under alternative B. These activities would be required to use existing trails, roads, and areas open to the public.

Relocation of Powerlines

The refuge manager is working with the Refuge System, Division of Realty, to renew the special use permit for the existing 3-mile-long Pepco transmission line that transects the refuge. Pepco applied for a new permit to operate the transmission line prior to the expiration of the prior permit, but a number of issues, such as the final appraisal, have held up the permit process. We have only analyzed the continued presence and maintenance of the transmission line in this EA. We considered the options of not renewing the powerline permit or requiring that the line be moved underground. The transmission line helps meet electric needs of the surrounding area and is vital to electricity transmission in the region. If we did not renew the permit, Pepco would be forced to relocate the line off-refuge, which could have larger impacts to wildlife as the lines would be built in other undisturbed areas. In addition, the costs associated with such a move would equate to more than \$1.1 million per mile with the distance to relocate around the refuge being a minimum of 7 miles along with any land acquisition costs. In the case of underground cables, typically, transmission lines with greater than 135 kilovolt capacity are very difficult to bury and the costs jump to more than \$2 million per mile. Given the nature of the powerlines and agreements that the refuge has established with Pepco regarding vegetation management, we determined that an alternative requiring the removal or burial of the Pepco transmission line would not be feasible given the high cost to the ratepayers and the minimal increase in our ability to meet the CCP/EA purpose and need. Therefore, we have not further analyzed such an alternative.

Decision to Be Made

The Service's Region 5 Director will make the final determination of a preferred alternative to serve as the CCP for Patuxent Research Refuge. This final determination will be based on the Service and Refuge System missions, the purposes for which the refuge was established, other legal mandates, and public and partner responses to this draft CCP/EA. The alternative selected could be the preferred alternative in the draft CCP/EA, the no action alternative, or a combination of actions or alternatives presented. The final decision will identify the desired combination of species protection, habitat management, public use and access, and administration for the refuge.

The Service determined that an EA would be a more appropriate document than an environmental impact statement (EIS) to accompany the CCP. The need to prepare an EIS is a matter of professional judgment requiring consideration of all issues in question. If the EA determines that the CCP will constitute a major Federal action significantly affecting the quality of the human environment, an EIS will then be prepared. If not, a Finding of No Significant Impact (FONSI) is prepared that briefly describes why the proposed action will not have a significant effect on the human environment. The FONSI also certifies that we have met agency compliance requirements and that the CCP, when implemented, will achieve the purposes of the refuge and help fulfill the Refuge System mission. Once the Regional Director has signed the FONSI and we have completed the CCP for the refuge, we will notify the public in the *Federal Register* and implementation can begin.

